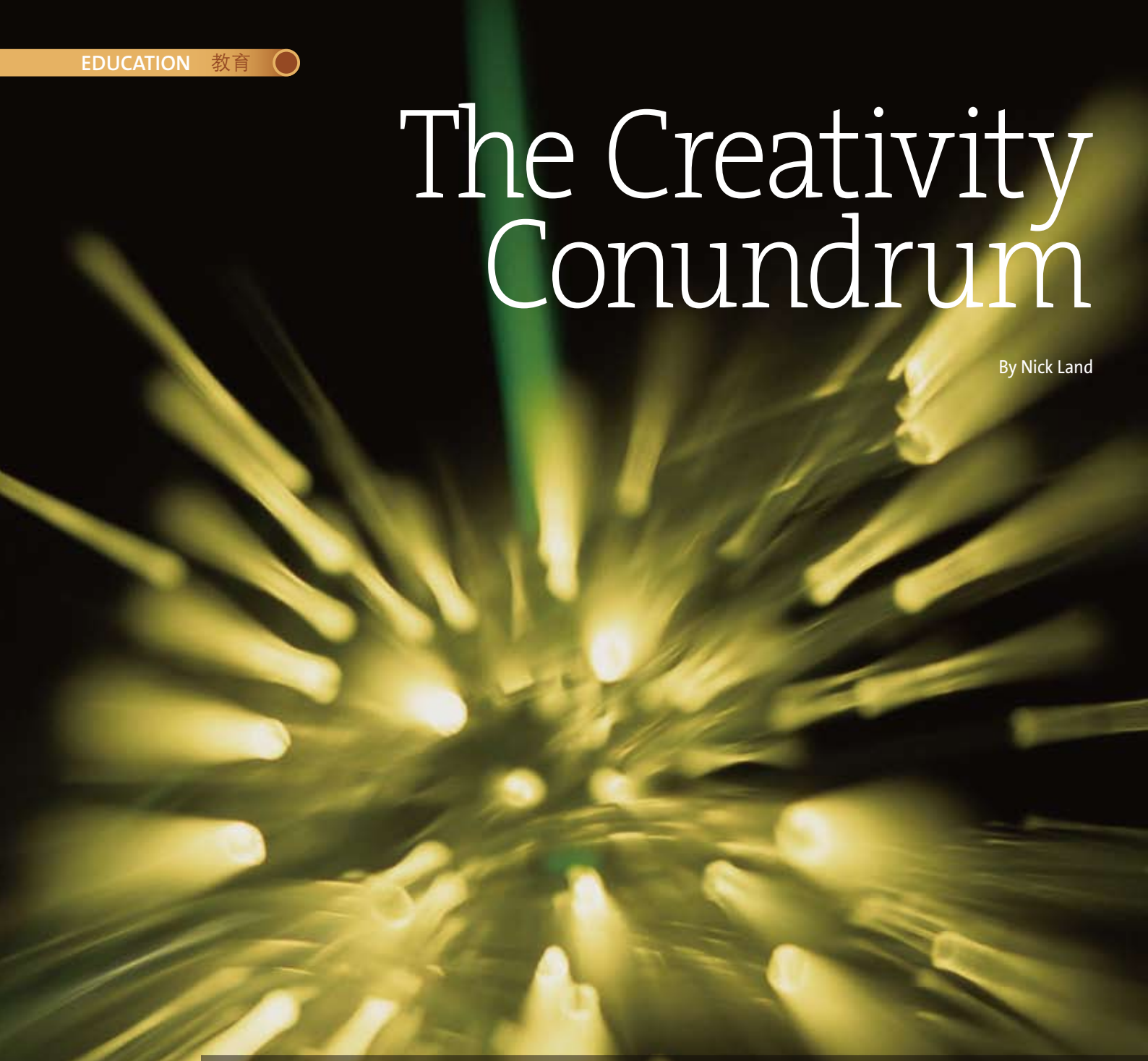
The Creativity Conundrum

By Nick Land



In the early 1970s, the world's most economically developed countries began to understand themselves as 'post-industrial societies'. This was a term introduced into general conversation by the American sociologist Daniel Bell, who popularized it through his influential book *The Coming of Post-Industrial Society* (1973). Bell's claim was based upon the declining significance of the manufacturing sector within the American economy, eclipsed by the rise of the services or 'tertiary' sector. He argued that the class-structure, politics, and culture that had been developed by industrialization were being replaced by new social groups and themes. In particular, the role of knowledge as a factor of production was being increasingly emphasized, within an "information-based economy" and "information society."

Even industrial technologies reinforced these social trends. By the late 20th century, the explosive development of computerized telecommunication systems was propelling the word 'information' to even greater prominence. The future, it seemed, would swallow not only society, but even nature itself, in a supernova of information. It was possible to imagine that nothing else really mattered.

Yet, with the dawn of the new millennium, there came a gradually spreading realization that Bell's 'white-collar' occupations would, in many cases, be the most easily substituted by the new information technologies. After all, an information processing job stands in more-or-less direct competition with an information processing machine. Any 'knowledge worker' engaged in routine activity would come to be directly threatened by the prospect of technological replacement, challenged to change, and to produce something new. From the perspective of any human

individual, group, or society trying to find its way in the rising, information drenched world, it was novelty, rather than knowledge, that mattered most. With that realization, another word was launched into dramatic ascent: *creativity*.

'Creativity' is a concept of entirely genuine and massive significance, but it is also the most heavily-trafficked buzz-word of our age. Especially in advanced metropolitan centers, 'creative' can appear as an indispensable adjective, required – and even sufficient – for the justification of any social undertaking. A clamor of 'creative solutions' is announced by 'creative businesses' in 'creative industries', perhaps based in 'creative clusters' or 'creative hubs' and serviced, of course (post-Bell), by a 'creative class'. The idea of the creative class is associated above all with Richard Florida, whose *The Rise of the Creative Class* (2002) has served as a manifesto for the deliberate social promotion of creativity in its economic application, especially as a policy tool for the vitalization of cities. "Human creativity is the ultimate economic resource," Florida argues. This striking formula epitomizes the leading spirit of our age.

Florida's work can be seen as providing policy advice to governments, principally at the municipal level, on how to attract a 'creative' population to the urban areas under their administration. Drawing such people it is argued (and widely accepted) is the key to urban flourishing. Yet for governments at a higher level, who are often equally persuaded by the creative agenda, magnetism is not enough. Since there is no obvious overall benefit to be gained from redistributing a nation's creative class amongst its various urban centers, the problem of creativity changes shape. For national governments the question becomes: How can the total supply of creative people be expanded? Posed in this way, it resonates strongly with the concerns of educators.

As the social demand for creativity in education becomes increasingly vociferous, aligning parents, businesses, and governments in the cause, the inherent complexities of this demand – even its contradictions – have become starkly evident. Insofar as creativity is a kind of learning, it is a peculiar kind, one that seems to run counter to the idea of *being taught*, of being rigorously evaluated, and perhaps even of being *one*. Furthermore, a consistent theme running through much of the research into education and creativity is that creative students, and creative behaviors, are often perceived by teachers as difficult, disruptive, and undisciplined. The underlying reasons for this are quite easy to identify.

"Human creativity is the ultimate economic resource"

Richard Florida

The Creative Society

The upsurge of interest in creativity as a general solution to social ills corresponds to a type of humility. It accompanies the recognition, amongst administrators, business people, educators, and others, that something different comes next, and that we really have no idea what it will be. Rather than seeking to program the future, a welcome mat is laid out for it. Creativity is invited in, along with the unknown tomorrow it brings.

The appeal of Richard Florida's work, as exemplified by his books *The Rise of the Creative Class*, and *Cities and the Creative Class*, is that he makes this invitation socially precise. The unknowable 'X', the big new thing, will emerge from an identifiable group of people, he suggests, and even if we cannot predict what these people will do, we can at least predict what they will like (and be like). This means that they can be attracted. Municipal leaders have eagerly seized upon Florida's recommendations to transform their cities into the tolerant, stimulating, 'hip' and 'happening' places that the creative class find magnetic. Of course, as should be expected of any class theory, heated controversy swirls around the analysis, ignited by its aura of bohemian elitism.

In any case, the question of creativity looks set to overspill the boundary of the 'creative class' as disconcerting change becomes an ever more comprehensive social condition. Cathy Davidson, author of *Now You See It: How Technology and Brain Science Will Transform Schools and Business for the 21st Century*, predicts that two-thirds of grade school students will work in jobs that don't yet exist. An inflexible or excessively conservative education could easily equip its students with an obsolescent system of expectations. Propelled into a future whose shape we cannot see, but one that impresses us forcibly with its strangeness, creativity can no longer be dismissed as an extravagance or indulgence. It is something much closer to a matter of sheer survival.

Yet being able to measure creativity does not imply an ability to teach or engender it, whether at the level of the individual educator, the school, or the wider society

Although definitions of creativity can be elaborate, often exceedingly so, a simple distinction between 'convergent' and 'divergent' thinking suffices to capture many of the essentials. Convergent thinking tends towards a single, correct solution. Beginning from a confusion of distracting possibilities, it proceeds through systematic elimination until arriving at the sole acceptable conclusion. By doing so, it supports agreement between students, with teachers, and in accordance with the consolidated knowledge of the wider society. Understanding that '2+2' can only equal '4' is a modest step towards social and cultural integration. It is also, conveniently, precisely examinable, and thus measurable. Whether a lesson in convergence of this type has been successfully taught is perfectly clear.

Divergent thinking, in sharp contrast, throws teaching and examination into perplexity. Consider what would be involved if, rather than asking: "What does two plus two equal?" the question was turned around, to become: "What equals four?" Rather than restricting possibilities, and requiring convergence upon *the* correct answer, the question now stimulates divergence, and the multiplication of possibilities. The answer "2+2" remains correct, of course, as does "1+3" and "0+4", but also "5+ -1", half of 8, the square root of 16, or the first compound number. Possibilities multiply into the infinite, even before extending beyond pure arithmetic, through geometry, and outwards to encompass examples such as the legs of a quadruped, or the letters of the tetragrammaton. There is no limit to the range and number of answers, and as thinking diverges through the ramification of possibilities, it departs ever more markedly from uniformity, becomes ever more original, and ceases to represent anything that could have been straightforwardly taught. It is no wonder that education systems, and educators, find such situations comparatively problematic. What does it even mean to get such thinking *right*?

Measuring creativity, or quantitatively assessing it according to uniform standards, might seem to be a hopelessly paradoxical – and thus simply hopeless – undertaking. Such despair is unwarranted, however. Whatever the difficulties involved in measuring divergent or creative thinking, the task cannot be blithely dismissed as straightforwardly impossible. The

evidence for that was provided by psychometric researcher Ellis Paul Torrance, as early as the mid-1960s, through the persuasive demonstration of a test that convincingly captures the basic features of such thought.

The Torrance Test of Creative Thinking (Torrance, 1966), or TTCT, has undergone a number of revisions over the decades, but even its original formulation set out clear principles for the measurement of creativity. It divides creativity (or 'divergent thinking production') into four quantifiable components: the number of relevant ideas generated, or *fluency*; the range of variation between the ideas, or *flexibility*; the (statistical) unexpectedness of the ideas, or *originality*; and the development of the ideas, or *elaboration*. The quantitative definition of each component allows it to be objectively (i.e. 'convergently!) measured. By making creativity rigorously testable, and thus tractable to scientific evaluation, the TTCT provided not only an academic research tool, but also a method of educational appraisal. As with all educational testing, this method is potentially double-sided; examining the creative competence of individuals on the one hand, and the success of educational processes on the other. Since the mid-1960s, therefore, at least in theory, the fostering of creativity had become a measurable educational goal.

A New Approach

Commenting on the educational legacy inherited from the 19th century, Ken Robinson argues:

So the hierarchy is rooted on two ideas: Number one, that the most useful subjects for work are at the top. So you were probably steered benignly away from things at school when you were a kid, things you liked, on the grounds that you would never get a job doing that. Is that right? Don't do music, you're not going to be a musician; don't do art, you're not going to be an artist. Benign advice — now, profoundly mistaken. The whole world is engulfed in a revolution.

And the second is, academic ability, which has really come to dominate our view of intelligence because the universities designed the system in their image. If you think of it, the whole system of public education around the world is a protracted process of university entrance. And the consequence is that many highly talented, brilliant, creative people think they're not, because the thing they were good at at school wasn't valued, or was actually stigmatized. And I think we can't afford to go on that way.

The full transcript of this TED talk can be found at: tedconfblog.wordpress.com/2006/06/sir_ken_robinso/

Yet being able to measure creativity does not imply an ability to teach or engender it, whether at the level of the individual educator, the school, or the wider society. Still less does it suggest an acceptance of 'creative education' as a desirable – or even clearly imaginable – objective. When introduced rhetorically, and abstractly, 'creativity' sounds like a good thing to have, but when the practicalities of a 'creative approach' to education are investigated in detail, passive obstacles and active objections rapidly accumulate.

Creativity is inherently troublesome, especially for institutions that have, as a not-insignificant part of their traditional mandate, a responsibility to maintain order. The problems it poses are numerous, and perhaps even numberless.

One dimension of difficulty can be illustrated by school science teaching, whose 'experiments' are often wildly comical in retrospect. In most cases the results are so thoroughly pre-programmed that the language of experimentation becomes ridiculous in itself, with pupils surreptitiously whispering to each other about what the correct outcome is supposed to be. Since science, *as taught*, is a cognitively convergent, analytical discipline, it goes without saying that each child is expected to 'discover' the same

Creativity meets Confucius

The 'creative agenda' can pose special challenges for Confucian societies, in which authoritative educational traditions are rooted to unique depths, investing examinations – in particular – with an intensity of meaning that approaches religious veneration. The legacy of China's Imperial Examination System, when combined with a writing system that makes extreme demands for memorization, has produced an educational culture that strongly emphasizes rote-learning, relentless testing, a reverence for literary precedent, and a minimum of critical distancing. These features can encourage the development of academic habits that – when observed by other cultures – appear to venture dangerously close to sheer plagiarism. The stigmatization of 'copying' that seems so natural in the West finds little native support in the Confucian world. Did not Confucius even recommend copying? How else is a model to be properly respected, or a lesson learnt?

A demand for creativity, however, arises spontaneously in any dynamic society, and China's depths of tradition are matched only by the speed of its recent development. As elsewhere in the world, the country has been thoroughly infected by the creativity bug, from top to bottom, even as parents maintain a stubborn practical attachment to time-tested methods of pedagogy and examination. Everyone agrees that education needs to become more 'creative' these days, at least in principle – and as long as the required innovations pose no threat to the *Gaokao* performance of their children.

Ken Robinson

In its most basic form, the teacher-pupil relationship rests upon the assumption – mutually acknowledged – that the teacher knows something that the pupil doesn't.

thing. On occasions, however, a truly unknown element is introduced by exploding test-tubes, toppling Bunsen burners, and other minor calamities. These experiments, by attaining the unexpected, have gone dramatically wrong. The open secret, of course, is that school science cannot in any credible way be experimental at all, but aims instead primarily at damage limitation, whilst seeking to provide some vague intuition of what a real experiment is like. Science cannot be done in schools, but only described there, and school science 'experiments' are in fact precarious little pieces of theatrical pretence – hence the comedy.

Creativity, however, is strictly indissociable from experimentation, its path profusely littered with mistakes. Ken Robinson describes the problem with his characteristic clarity:

What we do know is, if you're not prepared to be wrong, you'll never come up with anything original. ... And by the time they get to be adults, most kids have lost that capacity. They have become frightened of being wrong.… [W]e're now running national education systems where mistakes are the worst thing you can make. And the result is, we are educating people out of their creative capacities.

Since creativity tends naturally towards that which nobody yet

knows, each step it takes is an implicit challenge to the foundational principles of educational authority. In its most basic form, the teacher-pupil relationship rests upon the assumption – mutually acknowledged – that the teacher knows something that the pupil doesn't. That 'something' provides the substance of the educational exchange, as the object of learning, and once the pupil has fully absorbed it, the relationship is naturally dissolved. Creativity does not fit easily into this structure, however great the willingness to accommodate it. In this respect, schools offer an enhanced reflection of society's wider creativity conundrum.

Any society that comes to recognize, and embrace, its own historical dynamism, cannot long resist the lure of creativity. Everything that it finds most admirable about itself is concentrated in creativity, understood broadly and non-technically as the *production of valuable novelty*. Whilst the qualification 'valuable' might seem to cast this definition into a morass of subjectivity and disagreement, in modern, diverse, highly-commercial societies, 'value' typically acquires an economic form, and thus a basis for objective assessment. Irrespective of private tastes, 'valuable' innovation can be recognized as a social fact when it receives endorsement in the marketplace, and the surging vogue for creativity is largely dependent upon this link to economic success. When Ken Robinson tells the story of a 'problem child' who became a successful dance pioneer, he does not fail to mention that, in doing so, she became a multi-millionaire.

The question as to whether creativity is desirable, therefore, is no conundrum at all, at least in any society that is not positively committed to a state of maximum stasis. Even those with comparatively little direct concern for creativity, or perhaps a degree of aversion to it, want other things, for which creativity is increasingly seen as an indispensable requirement, such as social prosperity, problem solving capability, and prestige. *Of course* we want creativity, and thanks to disciplined psychometric research, we even have reasonably satisfactory tools with which to measure it. Somewhat less confidently, we can even set out to attract – or poach – it. What we do not know how to do, with any truly justifiable confidence whatsoever, is create it.

It should be noted that this last claim is at least mildly controversial. There has been no shortage of suggestions on how to foster creativity within an educational context. Numerous institutions and periodicals base themselves on this mission. The most common recommendations fall into three broad categories:

1. Syllabus revision, in favor of traditional or even exotic Arts subjects, in which convergence upon a single correct solution has a comparatively low pedagogical priority.

2. A transformation of teaching methods, away from information transfer models, and towards an 'inquiry-discovery' or problem-solving approach.

3. An acceleration of the replacement of 'industrial' patterns of schooling, which emphasize punctuality, obedience, uniformity, and the toleration of boredom, with 'freer' educational styles (child-centered, informal, and experimental).

From the perspective of the school, and the teacher, all of these recommendations involve a voluntary surrender of authority and control. As we have seen, this is not remotely accidental. It is related to another integrating theme: the usually tacit suggestion that creativity is something educators can – in the best cases – *allow* to happen, rather than something that can be strictly *inculcated*. When a municipal government encourages the emergence of a 'creative cluster', as a space in which creativity is *invited* to flourish, exactly the same general truth is in evidence. Creativity cannot be constructed or introduced, but only tolerated or released. For every institution tasked with its promotion, creativity presents a single, supremely frustrating problem: it seems only to come from outside, and elsewhere.

Within an educational context, parents often betray a remarkable sensitivity to this predicament, even if their understanding is necessarily formulated in vague and intuitive terms. When observing educational practices that have been shifted in a 'creative' direction, they not uncommonly perceive schools as trying to do desirable things that they might not be able to do, at the expense of other things, perhaps less desirable, that they nevertheless have clearly demonstrated competence at. On a whole range of topics, from child-centered learning, syllabus weighting, examinations, and home-work, to general disciplinary policy, parental influences are likely to be comparatively conservative, in part due to nebulous but insistent concerns that creativity exceeds the scope of realistic educational goals. Whilst teaching trigonometry might ultimately be no more important than teaching creativity, we know that effective schools can teach trigonometry, and then ensure that the achievement is recognized in examination results. Can they also teach creativity? The answer is, at the very least, far foggier.

That is the conundrum, an inherently stimulating puzzle that provokes creativity in the institutions which grapple with it. For adventurous educational practitioners, however, the difficulty is often a narrower one: even when parents are fully persuaded on the importance of creativity, they are rarely enthusiastic about experimenting with their children.

ONLINE CREATIVITY RESOURCES

Daniel Fasko, Jr., Education and Creativity, an excellent overview of creativity research with select bibliography
deved.org/library/sites/default/files/library/education_and_creativity.pdf
Richard Florida, website, including articles and discussions
www.creativeclass.com/richard_florida
Wayne Morris, Creativity in Education, a short introduction to the topic that places it in a policy context
www.jpb.com/creative/Creativity_in_Education.pdf
Yong Zhao, blog, with insights from an expert in the field
zhaolearning.com